Evaluating web-based training for employee assistance program counselors on the use of screening and brief intervention for at-risk alcohol use

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Abstract:

This article assesses a Web-based training for Employee Assistance Program (EAP) counselors on screening and brief intervention (SBI) for at-risk alcohol use. The training had four learning objectives: (1) increase counselors' awareness and sense of importance of at-risk drinking as a health behavior, (2) increase their sense of preparedness to deliver the brief intervention, (3) increase their sense of self-efficacy in helping clients with health behaviors, including at-risk drinking, and (4) increase their perceptions of the efficacy of counselors in general in dealing with health behaviors, including at-risk drinking. Results show increases in counselors' recognition of health behaviors as important, in their sense of preparedness to help clients with health behaviors, and in their sense of self-efficacy in dealing with health behaviors but no change in counselors' perceptions of the efficacy of counselors in general. These results suggest that Web-based training is an effective mode for teaching EAP counselors.

Keywords: alcohol use | brief intervention | screening | web-based instruction

Article:

Nondependent alcohol use can take many forms that cause substantial risk or harm to the individual. These forms include high-level daily use, repeated use to intoxication, and use that actually causes physical or mental harm (Babor & Higgins-Biddle, 2001; WHO Brief Intervention Study Group, 1996). The phrase at-risk drinking is increasingly being used to describe these nondependent but potentially harmful forms of alcohol use (e.g., National Institute

on Alcohol Abuse and Alcoholism [NIAAA], 2005), and research shows that at-risk drinking imposes significant costs to society (Harwood, Fountain, Livermore, & The Lewin Group, 1998; Mangione et al., 1999; Rice, 1993, 1999; Rice, Kelman, Miller, & Dunmeyer, 1990).

The WHO Collaborative Project on Identification and Treatment of Persons with Harmful Alcohol Consumption was initiated in 1982 to develop a scientific basis for managing at-risk drinking in primary-care settings. The result was the first cross-national study of screening and brief intervention (SBI) for at-risk drinking in medical settings (Babor, de la Fuente, Saunders, & Grant, 1989; WHO Brief Intervention Study Group, 1996). As the name implies, SBI consists of two defining activities: a standardized alcohol screen and an evidence-based brief intervention. Over the past two decades, numerous studies have demonstrated the effectiveness of alcohol SBI, primarily in medical settings (e.g., Babor et al., 2006, 2007; Bernstein et al., 2007; Bien, Miller, & Tonigan, 1993; Coffield et al., 2001; Moyer, Finney, Swearingen, & Vergun, 2002; Wallace, Cutler, & Haines, 1988; Wilk, Jensen, & Havighurst, 1997).

To extend the reach of SBI to other settings, the NIAAA funded the Healthy Lifestyles Project (HeLP) to study how SBI can be adapted to and implemented in Employee Assistance Programs (EAPs). Historically, EAPs have been the principal intervention mechanism for managing alcohol and other health and behavioral problems in the workplace (Roman & Blum, 1989), and they offer a wide range of services, including training and consultation with supervisors, short-term counseling, and employee referrals to appropriate services (Blum & Roman, 1992).

HeLP developed a Web-based course to train EAP counselors to conduct SBI. The objectives of the training were to (1) increase counselors' awareness and sense of importance of at-risk drinking as a health behavior; (2) increase their sense of preparedness to deliver the brief intervention; (3) increase their sense of self-efficacy in helping clients with health behaviors, including at-risk drinking; and (4) increase their perceptions of the efficacy of counselors in general in dealing with health behaviors, including at-risk drinking. Pre- and posttraining questionnaires were administered to assess changes in constructs related to these learning objectives. This article presents an analysis of the HeLP Web-based training in achieving these objectives. A fifth objective, to ensure a minimal level of factual knowledge regarding safe drinking guidelines, was only assessed posttraining and is not included in this analysis. Assessing the effectiveness of SBI in reducing the risky alcohol use of EAP clients is beyond the scope of this article that focuses on effectiveness of the Web-based training in achieving the four learning objectives described above.

DEVELOPMENT OF THE HeLP WEB-BASED TRAINING COURSE

The Cutting Back SBI protocol was adapted for use with the large number and wide geographic dispersion of EAP counselors recruited into HeLP. The Cutting Back protocol has proven effectiveness when used in primary care settings of managed care organizations (Babor, Higgins-Biddle, Dauser, Higgins, & Burleson, 2005; Babor et al., 2006; Bray et al., 2007). The protocol has been shown to be at least as effective in reducing alcohol consumption when delivered by nonphysicians as when delivered by physicians (Babor et al., 2006). The original Cutting Back training was designed for staff in primary care settings and is a fully scripted, 3-hour face-to-face course supported by clear learning objectives, videos, and slide presentations (Babor, Higgins-

Biddle, Higgins, Gassman, & Gould, 2004). In an evaluation of the original Cutting Back training, Babor et al. (2004) found the training to be effective in changing providers' knowledge, attitudes, and practice of SBI for at-risk drinking.

To translate the face-to-face Cutting Back training for use with EAP counselors and into a format suitable for delivery over the Internet, four training modules were produced. The first module describes the process of client selection and proper handling of study materials. The second module presents instruction on the effects of alcohol misuse, guidelines for acceptable levels of drinking, how to identify at-risk drinkers, and how to help clients consume alcohol within safe guidelines. The third module addresses procedures for implementing SBI, including the content of screening, brief intervention, and follow-up sessions. The final module includes one video demonstration of a counseling session and two video practice sessions, where EAP counselors being trained are asked questions about the appropriate next steps given the dialogue in the videos. A number of interactive flash elements and end-of-module knowledge checks were developed to reinforce learning objectives throughout the training.

The videos used in Module 4 are based on a series of counseling scenarios that were created to illustrate how best to implement SBI within the context of an EAP counseling session. Development of the videos began with interviews of trainers who had delivered the original Cutting Back training program and with EAP counselors. During these interviews, a number of common counseling scenarios were identified. Scripts were then developed that would provide the trainee with the background of the client being counseled as well as the actual counseling session. The developers of the original Cutting Back program were asked to review the scripts to make sure they were accurate in portraying the counseling scenarios identified. Once this was done, professional actors were hired and the videos were shot.

MATERIALS AND METHODS

Participants

To assess the effectiveness of Cutting Back implemented in an EAP, HeLP originally used a nested cohort design in which EAP affiliate offices associated with a large national EAP provider were randomly assigned to intervention and control conditions. Using a multistage sampling design that oversampled larger affiliate offices, 74 staff counselors in 26 EAP offices affiliated with a national EAP provider were recruited to deliver SBI. The counselors selected to deliver SBI were trained using the HeLP online training. Subsequent to this training, logistical challenges unrelated to the training required that the study be redesigned substantially.

Sixty-two counselors were assigned to the HeLP intervention condition and completed the online training. Table 1 presents demographic and professional training information for the study sample (one counselor did not provide demographic and training information). Just over two-thirds of the counselors were female, and a large majority of counselors were white and over the age of 45. Most counselors have a master's degree and about 20 years of experience as a counselor. Almost all of the counselors provide face-to-face clinical services. Counselors see an average of 21 clients a week and spend roughly 23 hours a week with clients. The majority of clients are adults. Just over half of the counselors are licensed clinical social workers (LCSW)

and roughly one-quarter are licensed professional counselors (LPC). Other counselor credentials include licensed marriage and family therapists (LMFT), certified employee assistance professionals (CEAP), and licensed chemical dependency counselors (LCDC). Almost 30% of these counselors possess other credentials not specified above.

TABLE 1 Demographic and Professional Training of the Participating Employee Assistance Program Counselors

Variable	Number[a]
Gender	
Male	19
Female	42
Race/Ethnicity	
White	56
Black	3
Hispanic	1
Other race	1
Age	
25–35	2
36–45	6
46–55	27
56–65	23
Older than 65	3
Education	
Bachelor's degree	2
Master's degree	53
Professional degree	1
PhD or EdD	5
Clinical practice characteristics	
Provide face-to-face services	59
Mean (Standard Error) hours per week spent with clients	23.192 (1.352)
Mean (Standard Error) number of clients per week	21.383 (1.311)
Mean (Standard Error) years of counseling experience	19.700 (1.099)
Percent of clients that are adults	
0%–25%	2
26%–50%	9
51%–75%	20
76%–100%	29
Credentials	
Certified Employee Assistance Professional	8
Licensed Chemical Dependency Counselor	3
Licensed Clinical Social Worker	33
Licensed Marriage and Family Therapist	11
Licensed Professional Counselor	16
Other	17

[a]There are 62 counselors in the analysis sample. Not all demographic and clinical data were complete for every counselor.

Measures

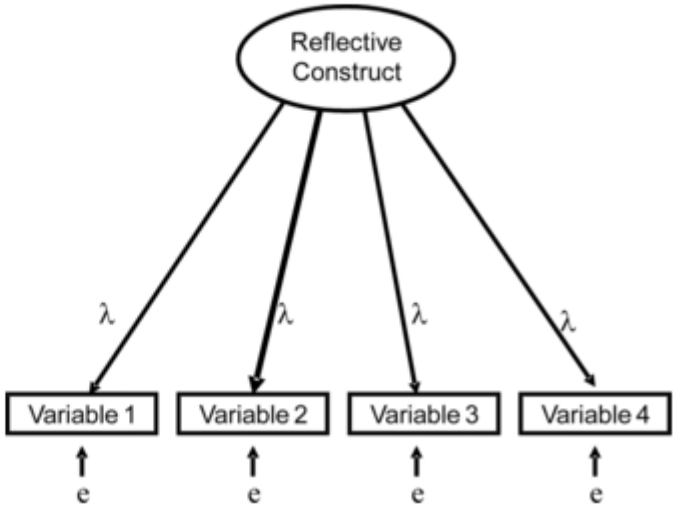
Pre- and posttraining questionnaires were administered to assess the effectiveness of the training in achieving the learning objectives. Four sets of items from Babor et al. (2004) were used to define four scales for a structural test of the effectiveness of the training on counselor perceptions of issues related to SBI. The following constructs are reflected in the item sets:

1. Importance: awareness and importance of health behaviors;
2. Preparedness: sense of preparedness to address health behavior issues;

3. Self-efficacy: sense of self-efficacy in helping clients with health behaviors; and
4. General efficacy: perceptions of the efficacy of counselors in general in dealing with health behaviors.

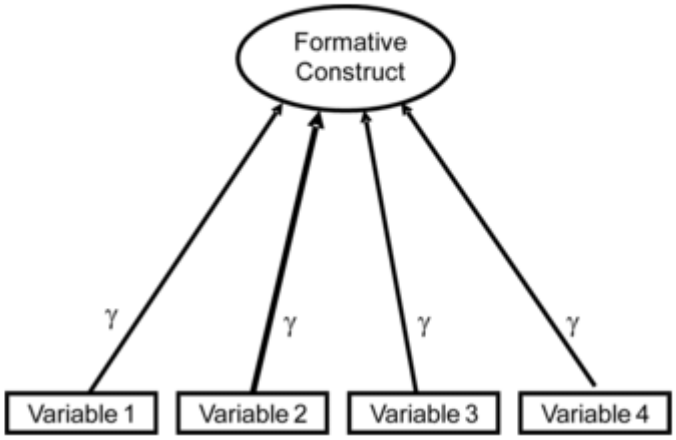
Two measurement models were used to combine the individual items into scales: a reflective measurement model and a formative measurement model. The reflective model is based on traditional psychometric theory, which posits that the items are interchangeable indicators of a single underlying construct. Sometimes called effect-indicator models or factor models, the item sets are considered highly intercorrelated measures that differ primarily in terms of their individual random measurement error. Figure 1 shows this model with four items that are hypothesized to be the effects of the underlying construct, represented here as the ellipse.

FIGURE 1 A reflective measurement model.



In contrast to the internally consistent reflective items, the formative items are not required or even expected to be highly internally correlated with one another. Instead, they represent distinct facets of the construct that when put together create a broader construct. Rather than reflecting a single underlying construct, these items form a new construct which is the sum of the items. Figure 2 illustrates this model with four items that combine to form the construct, again indicated by the ellipse. The formative model has some characteristics of multiple regression, except that the individual weights cannot be estimated without a criterion variable.

FIGURE 2 A formative measurement model.



Importance

The *importance construct* is defined as the counselor's perceived level of health risk associated with different types of health behavior. The construct is defined as a formative measurement model with seven measures of different types of behavior related to health: not smoking, exercising regularly, drinking alcohol moderately, not drinking at all, avoiding excess calories, reducing stress, and not using illicit drugs. As expected, this formative scale has a relatively low Cronbach's $\alpha = 0.68$. Variables are recoded to the direction of the health risk and totaled into an overall health risk variable. The following items and response categories were used as reflective indicators of the importance construct:

- How important do you think each of these behaviors is in promoting the well-being of the average person?

	Very important	Moderately important	Somewhat important	Not important at all
a. Not smoking				
b. Exercising regularly				
c. Drinking alcohol moderately				
d. Not drinking alcohol at all				
e. Avoiding excess calories				
f. Reducing stress				
g. Not using illicit drugs				

Preparedness

The preparedness construct inquires about how prepared the counselor feels to deliver counseling services for certain behaviors. In this case, we assume that the preparedness construct is defined by the counselor's feelings about specific behaviors and as such expect the construct to be organized around a formative measurement model of six items: not smoking, exercising regularly, reducing alcohol consumption, avoiding excess calories, reducing stress, and not using

illicit drugs. As expected, this formative scale has a relatively low Cronbach's $\alpha = 0.72$. Specifically, the following items and response categories were used as formative indicators of the preparedness construct:

- Counselors vary in their skills and training. How prepared do you feel when counseling clients in each of the behavior areas listed below?

	Very prepared	Somewhat prepared	Somewhat unprepared	Very unprepared
a. Not smoking				
b. Exercising regularly				
c. Reducing alcohol consumption				
d. Avoiding excess calories				
e. Reducing stress				
f. Not using illicit drugs				

Self-Efficacy

Unlike the previous examples, we contend that counselors' sense of self-efficacy in addressing health behaviors is likely to be associated with a more general belief about the effectiveness of their general counseling skills. As such, the self-efficacy construct asks about the counselor's perception of his or her own efficacy in helping clients with a variety of issues. The construct is defined as a reflective measurement model with six measures of different types of behavior related to health: not smoking, exercising regularly, reducing alcohol consumption, avoiding excess calories, reducing stress, and not using illicit drugs. Compared with the two formative scales, this reflexive scale has a higher Cronbach's $\alpha = 0.79$. Our measurement model includes the following six items and response categories as reflexive indicators of self-efficacy:

- How effective do you feel you are in helping clients achieve change in each of the following areas?

	Very effective	Somewhat effective	Somewhat ineffective	Very ineffective
a. Not smoking				
b. Exercising regularly				
c. Reducing alcohol consumption				
d. Avoiding excess calories				
e. Reducing stress				
f. Not using illicit drugs				

General Efficacy

This construct evaluates the counselor's perceptions about the efficacy of counselors in general after they have been properly trained. As with self-efficacy, we assume a reflective measurement model. The items in this scale had the highest Cronbach's $\alpha = 0.91$ of all scales. The general efficacy scale includes the following six reflexive indicators:

- In general, given adequate information and training, how effective do you feel counselors could be in helping clients in each of the following areas?

	Very effective	Somewhat effective	Somewhat ineffective	Very ineffective
a. Not smoking				
b. Exercising regularly				
c. Reducing alcohol consumption				
d. Avoiding excess calories				
e. Reducing stress				
f. Not using illicit drugs				

RESULTS

Table 2 presents the means and standard deviations for the items associated with each construct defined above at pretraining and at posttraining. All means are close to the theoretical midpoints of their respective distributions, reflecting the lack of any serious ceiling or floor effects. At the same time, all standard deviations suggest adequate individual differences in the distribution of responses and all standard deviations are considerably smaller than their respective means, reflecting a lack of any serious skewness in the censored distribution. Individual items are not tested to compare pre- and posttraining responses in order to avoid the inflated Type I error rate that that would arise from conducting 25 separate *t* tests.

Mean responses of the importance measures all suggest that counselors rated each health behavior in the construct as riskier after they received the training. The same pattern was seen for preparedness, except for reducing stress, which was unchanged at 3.87. Self-efficacy was also changed by training for all except reducing stress, which dropped slightly from pre- to posttraining (3.74 to 3.71, respectively). General efficacy showed the same pattern including reducing stress, which was unchanged at 3.82. These results provide some support for the hypothesis that the training provides counselors with the necessary information to screen and intervene with at-risk drinkers effectively.

TABLE 2 Mean and Standard Deviations (*SD*) of Responses to Scale Items

	Pretraining		Posttraining	
	M	*SD*	*M*	*SD*
Importance				
Not smoking	3.81	0.51	3.87	0.42
Exercising regularly	3.79	0.41	3.82	0.39
Drinking alcohol moderately	3.63	0.58	3.92	0.27
Not drinking alcohol at all	2.52	0.99	2.79	0.85
Avoiding excess calories	3.47	0.56	3.55	0.56
Reducing stress	3.85	0.40	3.92	0.27
Not using illicit drugs	3.90	0.35	3.92	0.27
Preparedness				
Not smoking	3.24	0.80	3.48	0.65
Exercising regularly	3.61	0.52	3.69	0.46
Reducing alcohol consumption	3.53	0.56	3.89	0.32
Avoiding excess calories	3.29	0.64	3.45	0.62
Reducing stress	3.87	0.34	3.87	0.34
Not using illicit drugs	3.58	0.64	3.61	0.61
Self-efficacy				
Not smoking	2.87	0.74	3.06	0.62
Exercising regularly	3.26	0.54	3.35	0.58
Reducing alcohol consumption	3.29	0.58	3.65	0.52
Avoiding excess calories	3.00	0.65	3.10	0.62
Reducing stress	3.74	0.44	3.71	0.49
Not using illicit drugs	3.21	0.77	3.34	0.68
General efficacy				
Not smoking	3.63	0.52	3.45	0.64
Exercising regularly	3.60	0.49	3.56	0.53
Reducing alcohol consumption	3.69	0.46	3.79	0.45
Avoiding excess calories	3.53	0.56	3.45	0.56
Reducing stress	3.82	0.39	3.82	0.39
Not using illicit drugs	3.55	0.53	3.63	0.53

Table 3 presents the descriptive statistics and paired t tests (controlling for clustering of counselors within affiliate offices) for the five multiple item scales. Summary scores for the importance, preparedness, and self-efficacy scales all show positive change of approximately .80 from pretraining. Pre- to posttraining changes in the general efficacy scale, however, suggest that training reduced trainees' perceptions of the efficacy of counselors in general in dealing with health behaviors, including at-risk drinking. The one-tailed test of statistical significance shows that the change from pretraining was statistically significant for the first three constructs, showing that the training was able to improve the scale scores on these three counselor-level variables. The small negative change for the fourth construct was not significant at conventional levels, suggesting that the training did not change the trainees' perception of the efficacy of counselors in general in dealing with health behaviors.

TABLE 3 Analysis of Scale Summary Scores

	Pretraining	Posttraining	Mean Change	*t* statistic	*p* value (1 − tailed)
Importance	24.97	25.79	0.823	2.81	0.005
Preparedness	21.13	22.00	0.871	2.59	0.008
Self-efficacy	19.37	20.21	0.839	2.54	0.009
General efficacy	21.82	21.71	−0.113	−0.25	0.404

Note. Sample size is 62 counselors clustered within 26 affiliate offices. Significance tests control for clustering at the affiliate level.

CONCLUSIONS

The results provide support for the hypothesized increase in counselors' perceptions of the importance of at-risk drinking within the context of health behaviors, their sense of preparedness to deliver the brief intervention, and their sense of self-efficacy in helping clients with health behaviors, including at-risk drinking. For each of these constructs, scores created by multiple items indicated statistically significant increases after training. These scales were all directed at the individual counselor perceptions regarding the characteristics and effectiveness of the training as they relate to that counselor's self-perceptions. The scale assessing perceptions of the efficacy of counselors in general in dealing with at-risk drinking remained statistically unchanged. These results suggest that the HeLP counselor training is able to improve counselors' perceptions of the importance of at-risk drinking as a health behavior, their sense of preparedness to deliver SBI, and their sense of self-efficacy in helping clients with at-risk drinking.

A key limitation of this study, however, is that the sample size is fairly modest. Nonetheless, results provide some statistical support for the hypothesized effects, and therefore it is difficult to conclude that the study was underpowered. With three of the four measures producing a significant increase at posttraining, it would appear that the probability of a Type II error is fairly low. The more important concern with the small sample is the possibility that it is systematically biased by including specific types of counselors that might not have occurred in a larger sampling frame. Such threats can never be ameliorated completely without a careful consideration of the entire population relative to the counselors included in the study.

Despite these limitations, our results have clear implications for both online training programs and for EAPs. In terms of online training programs, Driscoll (1998) has indicated that attitudinal skills are best developed in a blended environment where online learning either supplements or is supplemented by instructor-led learning. Our study suggests that with the use of appropriate technologies such as streaming video and other interactive elements, the use of a blended delivery system in this area may not be necessary. As for EAPs, our results indicate that online training is an effective tool for training EAP counselors to address at-risk drinking.

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Notes

a There are 62 counselors in the analysis sample. Not all demographic and clinical data were complete for every counselor.
Note. Sample size is 62 counselors clustered within 26 affiliate offices. Significance tests control for clustering at the affiliate level.

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